

REMARKS

Claims 1 through 5 and 7 through 21 are pending in this application. Claim 6 has been canceled without prejudice or disclaimer of its subject matter.

I. Election and restrictions

Respectfully, the applicant did not acknowledge that group I is classified in class 313 and group II is classified in class 445 as the Examiner states. The applicant only stated that "The Examiner mentioned that group I is classified in class 313..."

Secondly, the Examiner is now stating that 445 encompasses mechanical inventions while class 313 encompasses electrical inventions. This statement seems to be an improper analysis of the classes.

Furthermore, even if there are two different classes, this does not necessarily mean there is a "serious" burden on the examiner.

II. Amendment to Specification

The Examiner stated that the amendment filed July 14, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The Examiner stated that the added material which is not supported by the original disclosure is as follows: Applicant has amended paragraphs [0060] and [0146] to indicate that main barrier ribs (Fig. 1, 15) and electrode barrier ribs

(Fig. 1, 17) may be "main lattice walls" and "electrode lattice walls" respectively. However, the Examiner states that nowhere in the original disclosure does Applicant convincingly indicate that the barrier ribs are shaped in a lattice structure, and on the contrary, Applicant originally discloses the main barrier/lattice ribs and electrode barrier/lattice ribs are not intersecting as in a lattice structure, but are in parallel, i.e. a rib-like structure. See, for example, figures 1, 2, 3, 5, etc.

Respectfully, the amendments to paragraph 60 and 146 do not introduce new matter and the change is supported by the "original disclosure":

[0064] Each electrode lattice wall 17 divides each discharge cell 16 formed between the main barrier ribs 15 into a plurality of partitioned discharge cells. In the present invention, each discharge cell 16 is divided equally into two partitioned discharge cells 16A and 16B. The partitioned discharge cells 16A and 16B are used as spaces in which gas discharge is performed. R,G, B (red, green, blue) phosphor layers 20 are formed on a bottom surface of the partitioned discharge cells 16A and 16B.

[0068] The second substrate 12 of the plasma display structured as in the above is manufactured roughly as described below. That is, manufacture of the second substrate 12 includes a main lattice wall formation process, in which an original substrate glass is cut and the main barrier ribs 15 are formed integrally to the cut glass; an electrode lattice wall formation process, in which the electrode barrier ribs 17 are formed integrally to the original substrate glass between the main barrier ribs

15; an electrode formation process, in which the second electrodes 18 are formed on the distal ends of the main barrier ribs 15 and the electrode barrier ribs 17; a dielectric layer formation process, in which the second and third dielectric layers 19 and 19' are formed on the second electrodes 18 formed on the main barrier ribs 15 and the electrode barrier ribs 17, respectively; and a phosphor layer formation process, in which the phosphor layers 20 are formed in each discharge cell 16, that is, each of the partitioned discharge cells 16A and 16B.

[0084] In the plasma display according to the first preferred embodiment of the present invention, with respect to the second substrate 12, each main lattice wall 15 is formed integrally to the original substrate glass 12A, the electrode barrier ribs 17 are formed integrally to the original substrate glass 12A between each of the main barrier ribs 15, and the second electrodes 18 and the second dielectric layers 19 are formed on the upper end of the electrode barrier ribs 17.

As seen from the above "original disclosure", the main barrier ribs can be also called the main lattice walls 15 and the electrode barrier ribs may also be called the electrode lattice walls 17. Respectfully, the Examiner needs to focus in on that the term is "main lattice *walls*" and "electrode lattice *walls*" and not main lattice and electrode lattice. These are the "walls" that form the lattice which can also be called ribs. The claims recite *lattice walls* and the walls are seen clearly in the drawings.

Concerning point 5, The Examiner further noted that Applicant recited in claim 19 that the main wall and electrode wall are in a lattice structure, however, after objecting to the drawings in the previous Office Action for failing to show the lattice structures, Applicant amended the specification to indicate that the main and electrode barrier ribs can also be main and electrode lattice walls, instead of showing that the walls are a lattice structure. The Examiner suggests that this amendment is confusing, since a lattice structure and a rib structure are not equivalent structures, and Applicant has introduced new matter into the specification, i.e. the ribs are in a lattice structure.

Again, respectfully, claim 19 recites *main lattice walls defining a plurality of discharge cells*. The claims expressly mentions the “lattice wall”. The lattice wall is shown in the figures. It is a lattice wall that has to be shown and the wall is shown in the figures.

The Examiner stated that, “The Examiner suggests that this amendment is confusing, since a lattice structure and a rib structure are not equivalent structures, and Applicant has introduced new matter into the specification, i.e. the ribs are in a lattice structure.” In an effort to respectfully clarify for the Examiner, the question is incorrect in that it is not the difference between the “rib structure” and “lattice structure” that are mentioned in the claim. We respectfully suggest to the examiner to focus on the exact wording in the claims which mention “main lattice walls” and “main barrier ribs.” The ribs or the wall must be shown as it is that which is being claimed.

Main barrier *ribs* of claim 4 are shown in the figures as reference 15 for example. Furthermore, concerning claim 19, the main lattice *walls* are also shown in the figures as reference 15. Therefore, the claims do not have to be cancelled.

Concerning point 7 of the Examiner, the Examiner states that although Applicant may act as his or her own lexicographer to specifically define a term contrary to its ordinary meaning, the written description must clearly redefine the term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that term, Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The Examiner states that the term "lattice" is used by Applicant to mean "a series of parallel support strips," however the accepted meaning is "a framework or structure of crossed wood or metal strips." The Examiner states that the terminology is inconsistent with the accepted meaning, and Applicant has not clearly redefined the term. The Examiner recommends canceling this amendment, and entering a new amendment to the drawings and/or specification which clearly shows a lattice structure which Applicant may have intended.

Respectfully, as mentioned above, it is the lattice wall that is being claimed and it is the lattice wall that has been shown.

III. Drawings

Concerning point 9 of the Examiner, Examiner stated that the relative heights of the second and third dielectric layers as recited in Claim 4 must be shown or the feature(s) canceled from the claim(s).

Amendments were made according to Examiner's suggestion.

The original Claim 4 is further supported for example by the specification in paragraphs 177

and 178 which mention the alternative to the first and seventh embodiments. Paragraph 177 mentions that the first and seventh preferred embodiments of the present invention may have the upper surfaces of the dielectric layers on the main barrier ribs and the upper surfaces of the dielectric layers on the electrode barrier ribs with different heights.

To support the original claim 4 and the original disclosures in paragraphs 177 and 178, figure 41 was added showing the description of the original claim 4, and the original specification paragraphs 177 and 178.

Paragraphs 49 and 50 of the brief description of the drawings were amended to support the added figure 41.

The added figure 41 is similar to figure 31 except that a height of an upper surface of the third dielectric layer being greater than a height of an upper surface of the second dielectric layer as mentioned in the original claims and specification.

There is no new matter because the amendments are supported by the original claim 4 and the original specification.

Entry of the foregoing amendments to the specification and drawings is proper under 37 C.F.R. 1.116(b) because those amendments simply respond to the issues raised in the final rejection, no new issues are raised, no further search is required.

Concerning point 10 of the Examiner, the Examiner stated that the main and electrode lattice

walls (i.e. a framework of crossed strips) in claim 19 must be shown or the feature(s) canceled from the claim(s).

To clarify the main and electrode lattice walls, figure 42 was added. The lattice walls are shown for example by references 15 and 17. Furthermore, figure 42 also shows a lattice as the lattice walls 15 and 17 with the other parts (13, 13a) form the partitioned discharge cells 16A and 16B. Therefore, not only are the lattice walls shown but also an openwork structure of crossed strips ,etc. being a lattice and at least suggesting such a structure.

(The Examiner used the Websters definition. The full definition in Webster is: "1. an openwork structure of crossed strips or bars of wood, metal, etc. used as a screen, support, etc.; 2. something resembling or suggesting such a structure; a door, gate, shutter, trellis, etc. formed of such a structure; 3. Physics a) a three-dimensional pattern of points in space, as of atoms or groups of atoms in a solid or crystal b) space lattice c) the arrangement in a geometric pattern of fissionable and nonfissionable material in a nuclear reactor"

The Unabridged version of Websters dictionary also mentions "a rectangle cut up into equal small rectangles by parallels to the sides").

Therefore, the added figure 42 shows a structure that is not contradictory to the defined meaning of lattice.

No new matter was added by the newly added figure 42 because figure 42 is similar to figure 2 with a focus on a lattice.

Entry of the foregoing amendments to the specification and drawings is proper under 37 C.F.R. 1.116(b) because those amendments simply respond to the issues raised in the final rejection, no new issues are raised, no further search is required.

IV. Claim Objections

The Examiner stated that Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 6 has been cancelled without prejudice or disclaimer of its subject matter.

V. Claim Rejections - 35 USC § 103

Claims 1-11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komaki et al (USPN 6,236,160; "Komaki") in view of Kaake et al (USPN 6,307,318; "Kaake"). The Applicant respectfully traverses.

According to MPEP 706.02(j), the following establishes a *prima facie* case of obviousness under 35 U.S.C. §103:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20

USPQ2d 1438 (Fed. Cir. 1991).

The Examiner stated that in regards to claims 1, 6, and 19, Komaki discloses in figures 3 and 7, a first (1) and second (2) substrate opposing one another; a plurality of first electrodes (3b) formed on a surface of the first substrate facing the second substrate, and a first dielectric layer (5) covering the first electrodes, a plurality of main barrier ribs/main lattice walls (12) integrally formed on a surface of the second substrate facing the first substrate which define a plurality of discharge cells (11). The Examiner states that Komaki further discloses a plurality of electrode barrier ribs/electrode lattice walls (9) formed on the second substrate between the main barrier ribs into a plurality of partitioned discharge cells, the partitioned discharge cells for each of the discharged cells accommodating a phosphor layer (10) of the same color, and a discharge gas (Xe, column 6 line 46) provided in the discharge cells.

However, Komaki does not teach or suggest the two distinct elements of the electrode barrier ribs and the main barrier ribs. Komaki teaches of only a single type of barrier rib.

The Examiner argues that is not clear from claim 1 that the electrode and main barrier ribs have a different configuration, specifically because the word "comprising" is used as the transitional word.

However, it is not just the configuration but the actual distinctly claimed elements that are involved (electrode barrier and main barrier). As seen in Komaki, the same reference number 9 is used for all the ribs to denote that the element is exactly the same. Meanwhile in the present invention, two different terms (electrode barrier and main barrier) are used in the claims which correspond to the two different types of the reference numbers for the two different elements (e.g., 15 and 17).

The Examiner stated further stated that Komaki is silent to a second electrode and a second dielectric layer being formed on a distal end of each of the electrode barrier ribs/electrode lattice walls, but that Kaake teaches in figure 14 and column 2, lines 47-50 and column 3 lines 60-61, that a second electrode (92) and a second dielectric layer (94) may be formed on a distal end of the barrier ribs, and this configuration provides an improved back glass substrate for a plasma display panel. Furthermore, the Examiner argues that, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki including the electrode and dielectric layer structure of Kaake, since Kaake teaches that this configuration provides an improved back glass substrate for a plasma display panel.

The Examiner argues that this motivation of improving the back glass substrate is clear and

particular. However, any invention can be said to "improve" which does not in itself form a proper motivation to combine.

Further, there is no nexus that disclosure of figures 13 and 14 of Kaake ever does make an improvement. Kaake never even bothers to claim such elements.

Clearly, the motivation shown is very general and therefore, improper.

Concerning claim 3, the Examiner states that Komaki is silent to the exact height of the dielectric layers, but that Kaake teaches in figure 14 that the second dielectric layer is formed on the second electrode, which is, formed the distal end of each of the barrier ribs. The Examiner states that Kaake further teaches in figures 13-14 and column 1, lines 48-51 that a dielectric layer may be formed on every barrier rib using a method that will establish a height of an upper surface of the second dielectric layer and a third dielectric layer to be substantially the same and this configuration improves large screen plasma displays by allowing for an easier manufacturing method.

However, col. 1, lines 48-51 in point 20 of the Examiner's office action, only states that the thick film printing technique is difficult to apply to large areas requiring fine patterning due to deformation of printing screens. Furthermore, the text to figures 13-14 and the figures 13-14 make no such teaching either.

There is no teaching that the height is substantially the same and there is no teaching that there is two different dielectric layers (second and third dielectric layer) on the different types of ribs. As seen Kaake, the dielectric layer 94 is the same type on all of the ribs 40.

Regarding claims 4 and 21, the Examiner states that both Komaki and Kaake are silent to the height of an upper surface of the third dielectric layer being greater than a height of an upper surface of the second dielectric layer, but that Kaake teaches in column 10, lines 32-35, that if necessary, the dielectric layer can be removed in any suitable manner from the ribs and so one of routine skill in the art would arrive at the height of an upper surface of the third dielectric layer being higher than an upper surface of the second dielectric layer, since Kaake motivates one skilled in the art to experiment with the different dielectric heights, and discovering the optimum or workable ranges involves only routine skill in the alt. In re Aller, 105 USPQ 233.

However, the full text of col. 10, lines 32-35 of Kaake states that the "...dielectric layer 94 can be removed in any suitable manner form the ribs 40 as shown in FIG. 15." Looking at figure 15, it can be seen that there is no teaching of different heights. Any suitable manner does not mean that only part of the dielectric is removed, but the manner in which it is removed. Arriving at any height is clearly shown to be incorrect from looking at figure 15. Therefore, to state this teaches or suggest different heights is pure conjecture that is not based on anything in the references.

Regarding claims 5, 7-10, the Examiner stated that Komaki teaches in figures 2 and 7 that each discharge cell is divided into two partitioned discharge cells in which the same phosphor layer is formed, and the partitioned discharge cells include concave surfaces (the phosphor surfaces shown in figure 2), and a width of each of the partitioned discharge cells are formed to correspond to a color displayed by the particular portioned discharge cell.

However, the Examiner is using the phosphor layers to form the concave surface which is

incorrect with reference to the claims. Looking at claim 1 for which claims 5,7-10 depend, the *phosphor layers formed within the discharged cells* and in claim 10 *the partitioned discharge cells include concave surfaces*. Therefore, the discharged cell is distinct from the phosphor layer and so Komaki and the combination fails to teach or suggest the concave surface of the partitioned discharge cells.

The Examiner states that Komaki is silent to the second electrode being formed on a distal end of each of the main barrier ribs and electrode barrier ribs, but that Kaake teaches in figure 14, that one of the second electrodes (92) is formed on a distal end of each of the main barrier ribs (40) and the electrode barrier ribs (40).

However, there is distinct electrode barrier rib and main barrier rib in Kaake since both are barrier ribs 40.

Regarding claim 11, the Examiner states that both Komaki and Kaake are silent to the partitioned discharge cells displaying blue include a larger width than the portioned discharge cells displaying green, and the portioned discharge cells displaying green have a larger width than the portioned discharge cells displaying red, but , the Examiner argues that it is well known in the art that changing the discharge cells widths' so that the blue cells are larger in width than the green cells, and the green cells are larger in width than the red cells, will allow for proper brightness ratios.

In the Examiner's response to the arguments, the Examiner further states that particularly that the different widths of the discharge cells are not known in the art, the Examiner is supplying U.S.

Patent 6,424,095 to Hirao et al as evidence that changing the discharge cells widths' so that the blue cells are larger in width than the green cells, and the green cells are larger in width than the red cells, are known in the art.

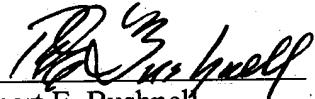
However, by using Patent 6,424,095 to Hirao et al, a new ground for rejection has been generated and the new ground for rejection has not been necessitated by an amendment since claim 11 has never been amended. Therefore, the finality of the office action must be withdrawn.

Furthermore, since Patent 6,424,095 to Hirao et al is supplied, the Examiner must further show a motivation to combine or modify the Kaake and Komaki which the Examiner has failed to do.

In view of the foregoing amendments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. If there are any questions, the examiner is asked to contact the applicant's attorney.

No fee is incurred by this Amendment. Should there be any deficiency in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,



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